

Back-up Documentation for Business Meeting October 05, 2011

EISG Program Solicitation 10-02G

TRUSTEES OF THE CALIFORNIA STATE UNIVERSITY. Possible approval of three grants under CEC Contract 500-98-014, totaling \$268,112, from the Public Interest Energy Research (PIER) programs Energy Innovations Small Grants Solicitation number 10-02G. These grants were competitively selected and are capped at \$95,000. The awards include innovative energy research projects on reducing the environmental impacts of the natural gas dehydration process, improving the natural gas combustion efficiency in commercial and industrial applications and high efficiency natural gas hot water heater systems. (PIER natural gas funding.) Contact: Michael Gravely. (5 minutes)

The specific proposed award is:

1. Membrane Technology and Research, Inc., *Prototype and Demonstration of Membrane Processes for Natural Gas Dehydration*, \$94,995. The goal of this project is to determine the feasibility of a membrane for dehydration of natural gas that will be more economical than the present method of glycol dehydration. This project hopes to provide environmental benefits by allowing Volatile Organic Compounds (VOC) to remain in the gas stream for elimination during combustion. Presently 5,000 tons of VOC's are emitted annually by California's natural gas consumption due to the glycol process.
2. Lumec Control Products, Inc., *Automatic Combustion Ratio Control for Modulation Natural Gas-Fired Systems*, \$92,642. This innovative technology may save California commercial and industrial customers \$300,000 and \$250,000 per year respectively through an improved combustion efficiency gains of up to 10% in commercial and industrial applications. The potential for savings in California based on this reduction in consumption could be up to \$100M.
3. Hal Slater, Individual, *Geothermal Water Heater Using Sensible Heat from Source Water*, \$80,625. This project will assess the feasibility of using the city water supply as a geothermal heat source for residential hot water. The Individual will design and build a hot water system using commonly available heat pump and storage equipment to provide hot water using a fraction of the energy consumed by common methods. These research results are targeted at temperate climate zones where there is adequate ground temperature all year.